

Translation

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PATENT COOPERATION TREATY

PCT

10/509866



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WA-0809	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP03/04623	International filing date (day/month/year) 11 April 2003 (11.04.03)	Priority date (day/month/year) 26 April 2002 (26.04.02)
International Patent Classification (IPC) or national classification and IPC C04B 35/195		
Applicant NGK INSULATORS, LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.	
<input type="checkbox"/>	This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
These annexes consist of a total of <u>5</u> sheets.	
3. This report contains indications relating to the following items:	
I <input checked="" type="checkbox"/>	Basis of the report
II <input type="checkbox"/>	Priority
III <input type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV <input type="checkbox"/>	Lack of unity of invention
V <input checked="" type="checkbox"/>	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI <input type="checkbox"/>	Certain documents cited
VII <input type="checkbox"/>	Certain defects in the international application
VIII <input type="checkbox"/>	Certain observations on the international application

Date of submission of the demand 26 June 2003 (26.06.03)	Date of completion of this report 10 October 2003 (10.10.2003)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP03/04623

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP03/04623

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	11, 12, 14-18, 29, 30, 32-36	YES
	Claims	1-7, 10, 13, 19-25, 28, 31	NO
Inventive step (IS)	Claims		YES
	Claims	1-7, 10-25, 28-36	NO
Industrial applicability (IA)	Claims	1-7, 10-25, 28-36	YES
	Claims		NO

2. Citations and explanations

Document 1: EP, 884459, A2 (CORNING INCORPORATED), 16 December 1998

Document 2: EP, 554104, A2 (NGK INSULATORS, LTD.), 04 August 1993

Document 1 cited in the ISR describes coating an unfired or fired cordierite honeycomb base with a composition containing talc or kaolin clay and less than 13% silica powder (table 1, embodiments 3 and 4) and firing it and forming a coating whose main component is cordierite. It also says the coefficient of thermal expansion is $5 \times 10^{-7}/^{\circ}\text{C}$ for the base and $11 \times 10^{-7}/^{\circ}\text{C}$ for the cordierite.

This being the case, given that the occurrence of cracks after firing is not observed and that quartz powder is typically used as silica powder (for example, see US 5114644 A, column 3, lines 43-46, etc.), it can be understood, according to the description in this application's specification, that the difference in shrinkage ratios of the coating and base when fired is less than 0.5%.

Therefore, the invention described in claims 1-7, 10, 13, 19-25, 28, and 31 is not novel on account of the invention described in document 1.

Next, newly cited document 2 describes grinding the outer periphery part of an unfired cordierite honeycomb structure and then coating it with a slurry whose main component is cordierite and firing it and forming an outer shell layer. It says the thermal expansion of the outer shell layer and the main body should be the same, and gives an embodiment in which the outer diameter is 300 mm.

This being the case, using the aforesaid composition described in document 1 (which has the same objective) instead of the slurry described in document 2, could easily be conceived by a person skilled in the art. Adjusting the particle size of kaolin, etc. in order to match coefficients of thermal expansion when doing so is a mere matter of design variation.

Therefore, the invention described in claims 1-7, 10-25, and 28-36 does not involve an inventive step on account of the inventions described in documents 1 and 2.